MORACHEVSKIY, Yu.V.; SHIPUNOVA, L.G.

Coprecipitation of molybdenum with metal hydroxides. Uch. zap. LGU no.297:63-70 '60. (MIRA 13:11)
(Molybdenum) (Hydroxides)

Pu-4 IJP(c) JD/HW/JG/GS

ACCESSION NR: AT5007824 S/0000/64/000/000 0107/0109

AUTHOR: Shipunova, L. G.

TITLE: Extractive-photometric determination of uranium in molybdenite

SOURCE: Leningrad. Universitet. Metody kolichestvennogo opredeleniya elementov (... determination of elements). Leningrad, Izd-vo Leningr. univ., 1964, 107-109

TOPIC TAGS: uranium determination, uranium extraction, photometric analysis, molybdenite analysis, diethyldithiocarbamate complex, ammonium diuranate

ABSTRACT: A method was developed for the extractive-photometric determination of uranium in molybdenite in order to reduce the analysis time by eliminating ... for reextraction. Uranium was determined from the optical density of ... diethyldithiocarbamate complex by dissolving a 1-2 g sample in HNO_3 and by ... melt of the residue, precipitation of ammonium ... complexing of accompanying Fe, Al, and Pb ... with Trilon B, neutralization and addition of sodium diethyldithio- ... complex with chloroform, and photometric ... 0.12-0.16% by measuring the optical density in chloroform

Card 1/2

L 36262-65
ACCESSION NR: AT5007824

0

solution. The results were in reasonable agreement with values obtained by other analytical methods. Orig. art. has: 1 table.

ASSOCIATION: none

SUBMITTED: 28Sep64 ENCL: 00 SUB CODE: IC ,GC

NO REF SOV: 005 OTHER: 002

Card 2/2

KOLYAK, N.A., inzh., SHIPUNOVA, L.P., inzh.

Carrying capacity of electric power transmission lines from thermal electric power plants. Elek. stat. 35 no.1:71-78 Ja '64. (MIRA 17:6)

1. Energosetproyekt.

SHIPUNOVA, M.

Resourses for improving operations of the automotive transport of the Chuvash A.S.S.R. Avt.transp. 35 no.11:29 N '57. (MIRA 10:12)

(Chuvashia—Transportation, Automotive)

SHIPUNOVA, Mariya Abramovna; STRYZHKOVA, N.I., red.; MAL'KOVA, N.V., tekhn.red.

[How to lower overhead expenses in automotive transportation] Puti snizheniia nakladnykh raskhodov v avtokhoziaistvakh. Moskva, Nauchno-tekhn.izd-vo M-va avtomobil'nogo transp. i shosseinykh dorog RSFSR, 1961. 29 p. (MIRA 14:6)
(Transportation, Automative)

SHIPUNOVA, M.I., kandidat meditsinskikh nauk (Leningrad).

Histochemistry of the placenta. Akush.i gin. no.6:44-48 N-D '55. (MLRA 7:1)
(Placenta)

VEKSLER, B.A.; SANDLER, Zh.Ya.; SHIPUNOVA, N.S.

Refining of diatomite from the Zabaluyka deposit. Sakh. prom. 37 no.4 52-57 Ap '63. (MIRA 16:7)

1. TSentral'nyy nauchno-issledovatel'skiy institut krakhmalo-patochnoy promyshlennosti.
(Zabaluyka—Diotomaceous earth)

KUROCHITSKIY, Cheslav Kazimirovich; SHIPUNOVA, Ninel' Semenovna; SHAMBORANT, G.G., retsenzent; FUKS, V.K., red.

[Hydrocyclones in the starch and molasses industry] Gidrotsiklony v krakhmalo patochnoi promyshlennosti. Moskva, Pishchevaia promyshlennost', 1964. 84 p. (MIRA 18:3)

ISHUTCHENKO, Ye.I.; OGIYENKO, V.S.; SHIPUNOVA, V.G.

Potentiometric determination of hydrogen-ion concentration in nickel electrolytes. Zav.lab. 21 no.2:164 '55. (MLRA 8:6)
(Hydrogen-ion concentration) (Electrolytes)

USSR/Zooparasitology. Parasitic Worms. General Problems. G

Abs Jour: Ref. Zhur. - Biol., No 23, 1958, 104025

Author : Shiraka, M. A., Grinbergs, A. R., Shenigson, B.S.

Inst : Institute of Biology of the Academy of Sciences LatSSR

Title : The Problem of the Epidemiology of Trichinellosis in the LatSSR.

Orig Pub: Tr. In-t biol. AN latv. SSSR, 1958, 5, 277-287

Abstract: During the period 1950-1955, solitary cases of trichinellosis (T) were found among wild animals on the territory of the Latvian SSR as well as among certain of the zoo carnivores: in 4 martens, 2 minks, rats, lions, leopards and a polar bear. In 1955, two foci of T were found in Prikul'skiy Rayon, which is located on the border of the LitSSR, where T has beenfound

Card 1/2

SHIPUNOVA, N.S.; LASTOVTSEV, A.M.

Investigating the operative efficiency of hydrocyclones by the thickened and clarified products. Sakh.prom. 37 no.6:66-72 Je '63. (MIRA 16:5)

1. TSentral'nyy nauchno-issledovatel'skiy institut krakhmalo-patochnoy promyshlennosti i Moskovskiy institut khimicheskogo mashinostroyeniya.
(Separators (Machines)--Testing)

SHIRABON, D.-N.Sh.

Equalizing the level of economic development under socialism; using the example of Buryatia. Trudy BKNII no.5:176-187 '64. (MIRA 18:2)

SHIRMA, Z. .

SHIRMA, Z. .. -- "The Reaction of the Pulp in Grinding Teeth and the Significance of the Local Use of Sodium Fluoride." Min Health Latvian SSR. Riga Medical Institute. Riga, 1955. (Dissertation for the Degree of Candidate in Medical Sciences.)

So; Knizhnaya Letopis' No 3, 1956

S[illegible], 1956.

"The Effect of Drinking Water at Various Temperatures and of Feeding Schedules on the Production, Udder Digestion, and Clinically Determined Physiological Indicators of Dairy Cows." Gand Vet Sci, Latvian Agricultural Academy, Min Higher Education USSR, Riga, 1955. (RL, No 9, Feb 55)

SO: Sum. No. 631, 26 Aug 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (1)

SHIRALIYEV, V.M.

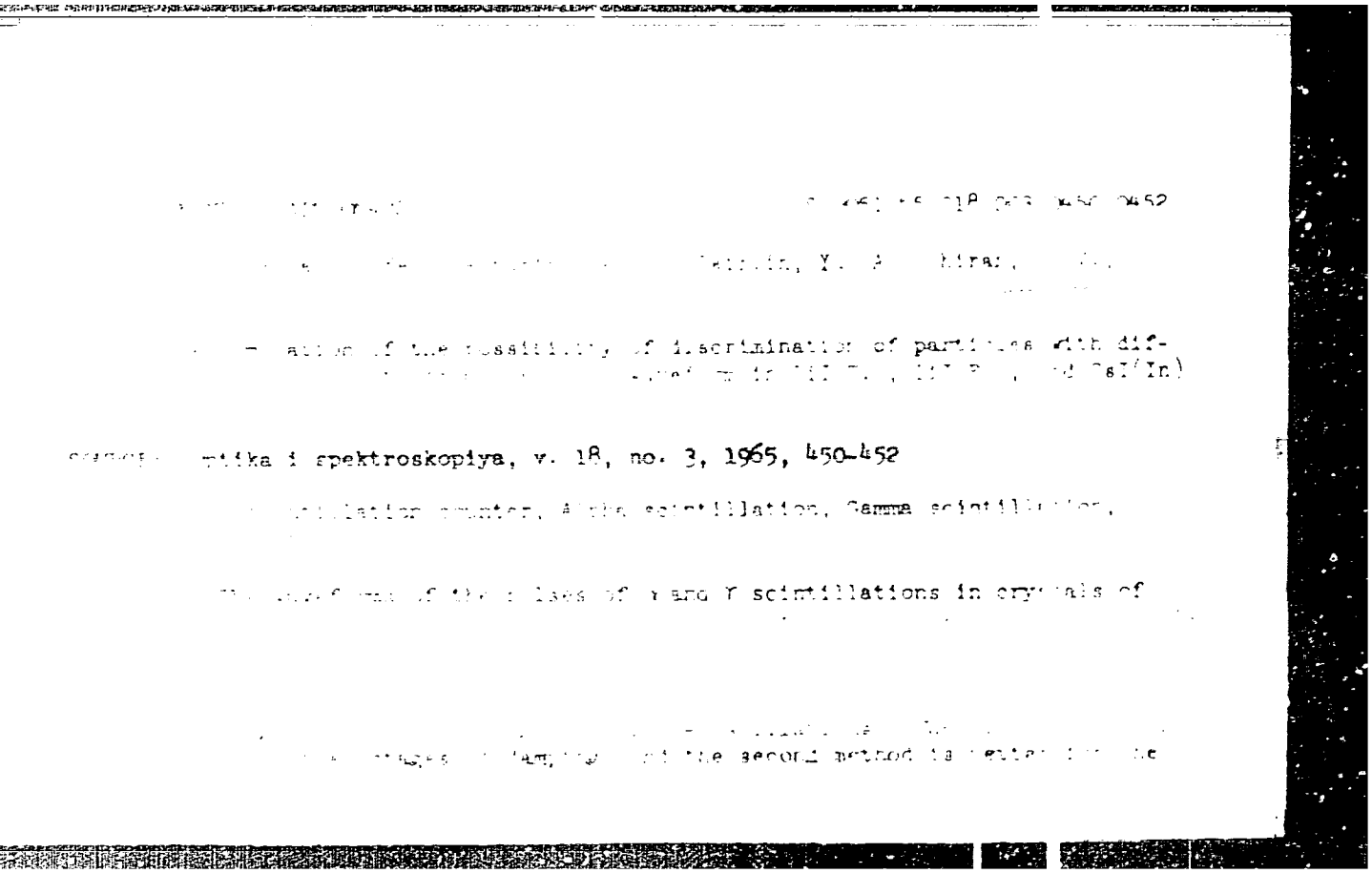
Methods for studying the effect of the development of mechanization on the reduction of labor intensity in building and assembling works. Dokl. AN Azerb. SSR 19 no.8:93-96 '63. (MIRA 17:11)

1. Institut stroymaterialov AN AzSSR. Predstavleno akademikom AN Az-SSR M.A. Useynovym.

SHIRALIYEVA, G.I.

Methods of determining and applying planned cost estimates for operating building machinery. Dokl. AN Azerb. SSR 21 no.4:68-71 '65. (MIRA 18:7)

1. Institut ekonomiki AN AzerSSR.

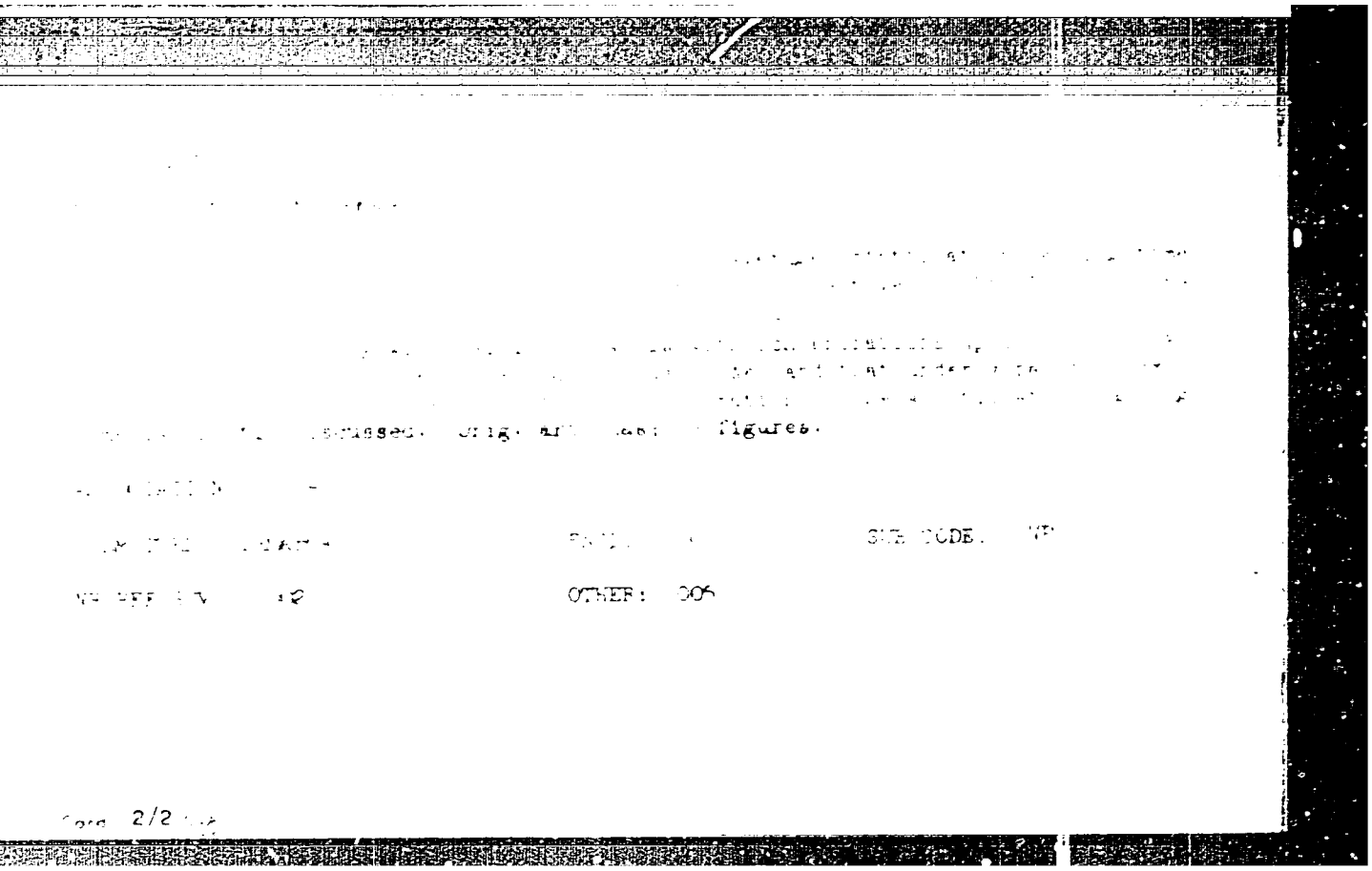


...tika i spektroskopiya, v. 18, no. 3, 1965, 450-452

...scintillation counter, Alpha scintillation, Gamma scintillation,

...

...



Form 2/2

SHIRANKOV, G.D.; SHIROKIY, D.K.

Electronic device for the automatic control of batching apparatus.
Avtomatyka no.2:104-106 '57. (MLRA 10:8)

1.Kiivskiy ordena Lenina politekhnichniy institut.
(Automatic control)

"Electronic Water Level Indicator" by Engineer G. D. Shirankov, Elektricheskiye Stantsii, No. 5, May 1957, Pages 71 -- 72.

The currently employed systems of floats and piping have a few shortcomings, particularly the fact that it is necessary to keep the equipment close to the boiler. This article describes an electronic system for measuring the water level in the boiler by using a capacitive transducer, a measuring circuit, and a secondary indicating instrument, all three of designs quite common in electronic measurement practice.

SOV/143-58-11-12/16
The Temperature Control of Superheated Steam by a Quick-Response Control

lopment of an automatic temperature control device for surface steam coolers is of great importance. Quick-response control units with computers may be used for achieving transient processes of minimum duration and with minimum deviation of the steam temperature to be controlled. Quick response control units are very complicated compared to conventional units, but nevertheless, there are no essential engineering problems in designing such control units. The author determines the kind of transient processes in quick-response control systems and presents a block diagram of the latter. Figure 9 shows the principal circuits of a quick-response control device as suggested by the author. There are 1 circuit diagram, 1 block diagram, 7 graphs and 4 Soviet references.

ASSOCIATION: Institut avtomatiki Gosplana USSR (Institute of Automation of Gosplan UkrSSR)
SUBMITTED: June 30, 1958
Card 2/2

SHIRANKOV, G.D.

New principle of using a high-speed nonlinear controller in regulating industrial processes having considerable lag. Avtom.i prib. no.1: 75-80 '59. (MIRA 13:10)

(Electronic control)

S/704/61/000/002/002/006
D201/D302

AUTHOR: Shirankov, G.D., Engineer

TITLE: The dynamic properties of fast non-linear controllers

SOURCE: Ukraine. Gosudarstvennaya planovaya komissiya. Institut avtomatiki. Avtomatizatsiya i priborostroyeniye; sbornik nauchnykh trudov, no. 2, Kiyev, 1961, 42-49

TEXT: A short comparative analysis of transients in linear and fast, pulse operated automatic control systems having various forms of control signals. By comparing the transient responses of linear and pulse operated controllers, the author concludes that a pulse operated fast controller requires a control signal of a much smaller amplitude. A similar analysis of the performance of a controller of a second-order system with a delay shown that if the controller is operated by one pulse only, the transient response is near the optimum. Finally the author describes the operation and the circuit diagram of a fast response controller having a constant duration input control pulse, i.e. in which the duration of the control pulse is independent of the magnitude of the output error. Since the

Card 1/2

The dynamic properties of ...

duration of the control pulse is constant — the position of the controller after each operation is only approximate and does not always correspond to the balance of the system. This results in a normally oscillating state of the control system which is, however, quite acceptable from the point of view of dynamic accuracy. Such a controller was installed on a high-pressure boiler aggregate type ТП-170 (TP-170). The measuring element was a thermocouple, the superheated steam temperature could be kept within ± 5°C at large variation of the boiler loading. Similar accuracy can be obtained with a controller type ЭР-Т-54 (ER-T-54) with an additional signal from the rate of change of steam temperature. It is concluded that in comparison with linear controllers fast acting non-linear controllers in conjuction with computers increase the accuracy of dynamic control several times over. There are 6 figures and 5 Soviet-bloc references.

Card 2/2

SHIRANKOV, G.D. (Kiyev)

Problem concerning the development of high-speed industrial automatic controllers. Avtom. i telem. 22 no.12:1620-1624 D '61. (MIRA 14:12)

(Automatic control)

42781

S/194/62/000/011/015/062
D201/D308

13.2000

AUTHOR: Shirankov, G. D.

TITLE: Dynamic properties of high-speed nonlinear control arrangements

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 11, 1962, 47, abstract 11-2-93shch (Sb. nauchn. tr. in-t avtomatiki gosplana UkrSSR, 1961, no. 2, 42-49)

TEXT: A comparative analysis is given of properties of transient processes in linear high-speed automatic control systems with various forms of inputs. It is shown that the nonlinear high speed regulators (R), producing nearly optimal transients in the automatic control system are a very efficient means of automation, especially in cases when the objects to be controlled have unfavorable dynamic properties. Graphs of transients due to stepped and linearly changing disturbances, acting in linear high-speed systems, are given. It is shown that in the case of a stepped input the gain

Card 1/2

in amplitude, obtained with a high-speed R is with respect to a linear R considerably less than the gain in the duration of the transient. With linear input, a high speed R results in a much greater gain in amplitude than that with stepped input. If the shapes of actual inputs differ from the above, they can be represented in the form of consecutive linear inputs and the former results may be used. The basic schematic diagram is given together with a detailed description of the operation of an optimal high-speed R which works similarly to a sampled-data R. The dynamic accuracy obtainable with such an R is fully acceptable, even in the case of objects having unfavorable characteristics: the results are confirmed by graphs of experimental test results. 5 references. [Abstracter's note: Complete translation.]

14-57-7-15094

Translation from: Referativnyy zhurnal, Geografiya, 1957, Nr 7, p 146 (USSR)

AUTHORS: Shiranovich, P. I., Morozova, I. V.

TITLE: Seasonal Change in the Number of Fleas Found in Gopher Burrows Under Different Conditions of Locale and Ecology (Sezonnyye izmeneniya chislennosti blokh v norakh suslikov v razlichnykh landshaftno-ekologicheskikh usloviyakh)

PERIODICAL: Sb. tr. Astrakhansk. protivocumn. st., 1955, Nr 1, pp 379-386

ABSTRACT: In the Black Earth zone of Astrakhan Oblast the seasonal curve of the number of fleas found both in burrows and on animals reaches its first peak in early spring due to increases of Neopsylla setosa. Its secondary peak occurs in June, following the increase of Ceratophyllus tesquorum. Few fleas are

Card 1/2

COUNTRY :
CATEGORY :

ABS. JOUR. : RZhBiol., No.14, 1958, No. 62535.

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : the ground surface and the density of the susliks' population and of their burrows. There are submitted the results of the numerical calculation of fleas, on the average, per 1 ha on the susliks and in their burrows; such an index changes seasonally more smoothly than the I on susliks. These materials refute the statement (Tukhomirov, etc., 1935) of complete replacement of the composition of the suslik's

CARD: 2/4

COUNTRY :
CATEGORY :

ABS. JOUR. : RZhBiol., No.14, 1958, No. 62685.

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : imago fleas in the beginning of summer. In order to grasp, by using the calculations, the mosaic of the fleas' numbers according to biotypes and stations, it is recommended to apply to mobile units less laborious methods - the count of the fleas in the first "knee" of the burrows by the use of a belt and combining it with the count obtained by means of the stationaries of the gross quantity of the fleas. Observations are presented, which testify to the dependance of the size of the fleas' nu-

CARD: 3/4

COUNTRY : USSR.
CATEGORY : Zoological Parasitology. Acarids and Insects as Disease Vectors. Insects.
ABS. JOUR. : RZhBiol., No. 14,1958, No. 62588.

AUTHORS : Shiranovich, P. I.; Mironov, N. P.
INST. : Rostov-on-Don State Scientific-Research*
TITLE : Interspecies Contact Connections in Rodents Through Fleas in Semidesert Conditions.

ORIG. PUB. : Tr. Rostovsk.-n-D. gos. n.-i. protivochumn. in-ta, 1956, 10, 435-442.
ABSTRACT : Character of the exchange by ectoparasites (fleas) was studied among animals in two different landscape-ecologic sections of the northwestern region of the Caspian Sea, depending upon seasonal and stationary factors. In the region of black earths, having a monotonous landscape and the largest number of small suslika, a more intensive flea exchange in springtime is characteristic; the exchange

CARD: 1/3 ... Institute.

30

VASILENKO, V.S.; TINKER, I.S.; SHIRANOVICH, P.I.

Control of rat fleas in large cities as a prophylactic measure against plague. Report No.1. Med. paraz. i paraz. bol. 27 no.4:464-469 Jl-Ag '58. (MIRA 12:2)

1. Iz Rostovskogo gosudarstvennogo nauchno-issledovatel'skogo protivochumnogo instituta Ministerstva zdravookhraneniya SSSR (dir. instituta A.K. Shishkin).

(FLEAS,
control in prev. of plague (Rus))
(PLAGUE, prev. & control,
fleas control (Rus))

SHIRANOVICH, P. I.

"Immediate Problems in the Study of Fleas as Epidemiological Agents in Connection with the Tasks of Study and Sanitation of Natural Foci of Plague in the Soviet Union."

Tenth Conference on Parasitological Problems and Diseases with Natural Reservoirs, 22-29 October 1959, Vol. II, Publishing House of Academy of Sciences, USSR, Moscow-Leningrad, 1959.

Rostov-on-Don Antiplague Institute

SHIRAYEVICH, T. I., TAIKOF, I. S., MIKOLOV, N. I., CHOLINKEO, B. E.

"The ecological conditions of the plague with a natural focus in the northeastern and eastern Caspian region." Page 269

Desyatoye soveshchaniye po parazitologicheskim problemam i prirodnoochagovym boleznyam. 22-29 Oktyabrya 1959 g. (Tenth Conference on Parasitological Problems and Diseases with Natural Foci 22-29 October 1959), Moscow-Leningrad, 1959, Academy of Medical Sciences USSR and Academy of Sciences USSR, No. 1 254pp.

Antiplague Inst., Rostov-on-Don

MIRONOV, N.P.; TINKER, I.S.; SHISHKIN, A.K.; SHIRANOVICH, P.I.; VAL'KOV, B.G.; IVANOV, I.Kh.; KARPUZIDI, K.S.; KLIMCHENKO, I.Z.; SHIRYAYEV, D.T.

Contemporary status of the plague focus in the northwestern Caspian Sea region and problems in its further study. Sbor. nauch. rab. Elist. protivochum. sta. no. 1:19-29 '59. (MIRA 13:10)

(CASPIAN SEA REGION—PLAGUE)

SHIRANOVICH, P.I.; MOROZOVA, I.V.; SAMARINA, G.P.; PAVLOV, A.N.

Fleas (Aphaniptera) of gerbils of the northwestern Caspian Sea region. Sbor. nauch. rab. Elist. protivochum. sta. no. 1:129-143 '59. (MIRA 13:10)
(CASPIAN SEA REGION--FLEAS) (PARASITES--GERBILS)

SHIRANOVICH, P.I.; MOKROUSOV, N.Ya.; SHADIYEVA, KH.G.

Notes on the ecology of the fleas of jerboas in the northwestern Caspian Sea region. Sbor. nauch. rab. Elist. protivochum. sta. no. 1:145-153 '59. (MIRA 13:10)
(CASPIAN SEA REGION—FLEAS) (PARASITES—JERBOAS)

SHIRANOVICH, P.I.; TRESHCHILIN, F.F.

Method for the study of fleas in the epizootological investigation of sandy districts. Sbor. nauch. rab. Elist. protivochum. sta. no. 1:183-186 '59. (MIRA 13:10)

(FLEAS)

SHIRANOVICH, P.I.; PUSHNITSA, F.A.

Species of fleas found on rats in European Russia. Med.parazit. i paraz.bol. 29 no.5:584-590 S-O '60. (MIRA 13:12)

1. Iz Rostovskogo-na-Donu gosudarstvennogo nauchno-issledovatel'skogo protivochumnogo instituta (dir. instituta A.K. Shishkin).
(FLEAS) (RATS—DISEASES AND PESTS)

SHIRANOVICH, P.I.; CHUMAKOVA, T.V.

Experimental studies on birds as transmitters of rodent fleas.
Zool. zhur. 40 no.4:577-582 Ap '61. (MIRA 14:3)

1. Rostov-on-Don State Research Anti-Plague Institute.
(Fleas) (Birds as carriers of disease) (Parasites--Rodentia)

ROSTIGAYEV,B.A.; SHIRANOVICH, P.I.

A new species of fleas, Ctenophthalmus (Euctenophthalmus) tataricus Rostigayec et Schiranovitsch sp.n. Zool. zhur. 43 no.4:612-613 '64 (MIRA 17:8)

1. Research Anti-Plague Institute of the Caucasus and Transcaucasia, Stavropol, and State Research Anti-Plague Institute, Rostov-on-Don.

SHIRANOVICH, P.I (Rostov-na-Donu); IVANOV, K.A. (Rostov-na-Donu); IOLKOVOVA, Ye.N. (Rostov-na-Donu); CHIVELOV, V.I. (Rostov-na-Donu)

Fleas in human dwellings in Caspian Lowlands. Med.paraz.i paraz.bol. 33 no.4:494-495 Jl-Ag '64. (MIRA 18:3)

SHIRANOVICH, ...I.; ZHELDAKOVA, K.A. (Rostov-na-Donu)

Effect of burrow spraying on the micropopulations of fleas in susliK nests; an author's abstract. Med. paraz. i paraz. bol. 33 no.5:617-618 S-O '64. (MIRA 18:4)

MIRONOV, N.P., prof.; KARPUZIDI, K.S.; KLIMENKO, I.Z.; KOLESNIKOV, I.M.; LISITSYN, A.A.; NEL'ZINA, Ye.N.; SHIRANOVICH, P.I.; SHIKYAYEV, D.T.; YAKOVLEV, M.G.; NIKOLAYEV, I.M., red.

[Sources and carriers of plague and tularemia] Istochniki i perenoschiki chumy i tuliaremii. Moskva, Meditsina, 1965. 194 p. (MIRA 18:4)

1. Rostovskiy-na-Donu nauchno-issledovatel'skiy protivochumnyy institut (for all except Nikolayev).

SHIRANOVICH, P.I.; MOLODOVSKIY, A.V.; OSOLINKER, B.Ye. [deceased]; DEREVYANCHENKO, K.I.; SAMARIN, Ye.G.

Microclimate of the burrows of the greater gerbil Rhombomys opimus Licht. Zool.zhur. 44 no.8:1245-1254 '65.
(MIRA 18:11)

SHIRAY, B.P. (Ternopol',ul. Kiyevskaya 1, kv.31)

Comparative evaluation of the methods for pneumography of the abdominal cavity and retroperitoneal space in the diagnosis of tumors. Vop.onk. 7 no.12:42-47 '61. (MIRA 15:1)

1. Iz kafedry obshchey khirurgii (zav. - dots. Yu.T. Komorovskiy) Ternopol'skogo meditsinskogo instituta (dir. - dots. P.Ye. Ogiy).
(ABDOMEN--TUMORS) (RETROPERITONEAL SPACE--TUMORS)
(RADIOGRAPHY)

SHIRAY, G.T.

Methods and safety measures for drilling drain and advance holes. Bezop. TSIIN tsvet. met. no. 11:2-7 '58. (MIRA 11:7)
(Mining engineering--Safety measures)

SHIRAY, G. T., kand. tekhn. nauk

Testing and classifying preventors for underground work.
Bezop. truda v prom. 6 no.9:27-29 S '62. (MIRA 16:4)

(Mining machinery)

[illegible] A.

2?162

[Ye]khanizirovannyy sposob pri[illegible]stva kornyeli slozhnoy struktury (S. pril. "Instruktsiy"). Konsul'tatsii po pishch. Prom-sti. (Ukr. Nauch-issled. In-t. Pishch. Prom-sti). Byp. 3, 1949 S. 24-41 - Bibliogr: 7 Nazv

XVII. Syelbskoye khozyaystvo
1. Obshchiye voprosy. Kolkhozy. Sovkhozy. Podsobnyye khozyaystva.

SO: LETOPIS No. 34

GHIRAY, R. A., SOKOLOV, A. V., VVEDENSKIY, B. A., ARMAND, N. A., KALININ, A. I., KOLOSOV, N. A. and SHABELNIKOV, A. V.

"Long Range Tropospheric Propagation of Ultra Short Radio Waves."

report presented at Commission II,13th General Assembly of the International Scientific Radio Union in London, 5-15 Sept 1960.

Report available, Encl. to B-3,176,875, 30 Jan 61

SHIRAY, V.Kh.

Hemangioma of great omentum. Akush. i gig. 33 no.2:87-88 Mr-Ap '56.
(MLRA 9:7)

1. Iz ginekologicheskogo otdeleniya (zaveduyushchiy P.G.Sagarda) Poltavskoy oblastnoy bol'nitsy.

(OMENTUM--TUMORS)

SAMOYLIVSKIY,M.B., kandidat tekhnicheskikh nauk; VOROTNIKOV,S.P., gornyy inzhener; SHIRAY,Ye.N., gornyy inzhener; KORNIYEVSKIY, D.N., inzhener; GORODNICHEV,V.M.

"Rock freezing in the process of shaft sinking." N.G.Trupak. Reviewed by M.B.Samoilovskii and others. Ugol' 30 no.8:48 Ag'55. (MLRA 8:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut organizatsii i mekhanizatsii shakhtnogo stroitel'stva (for Samoylovskiy, Vorotnikov, Shiray). 2. Ukrzapadshakhtostroy (for Korniyevskii) 3. Kombinat Stalinshakhtostroy (for Gorodnichev)
(Shaft sinking) (Frozen ground) (Trupak, N.G.)

SHIRAY, Ye.N., inzhener.

Turbodrilling of wells by the method of freezing. Mekh.trud.rab. 10 no.11: 21-23 N '56. (MIRA 10:1)
(Turbodrills) (Boring)

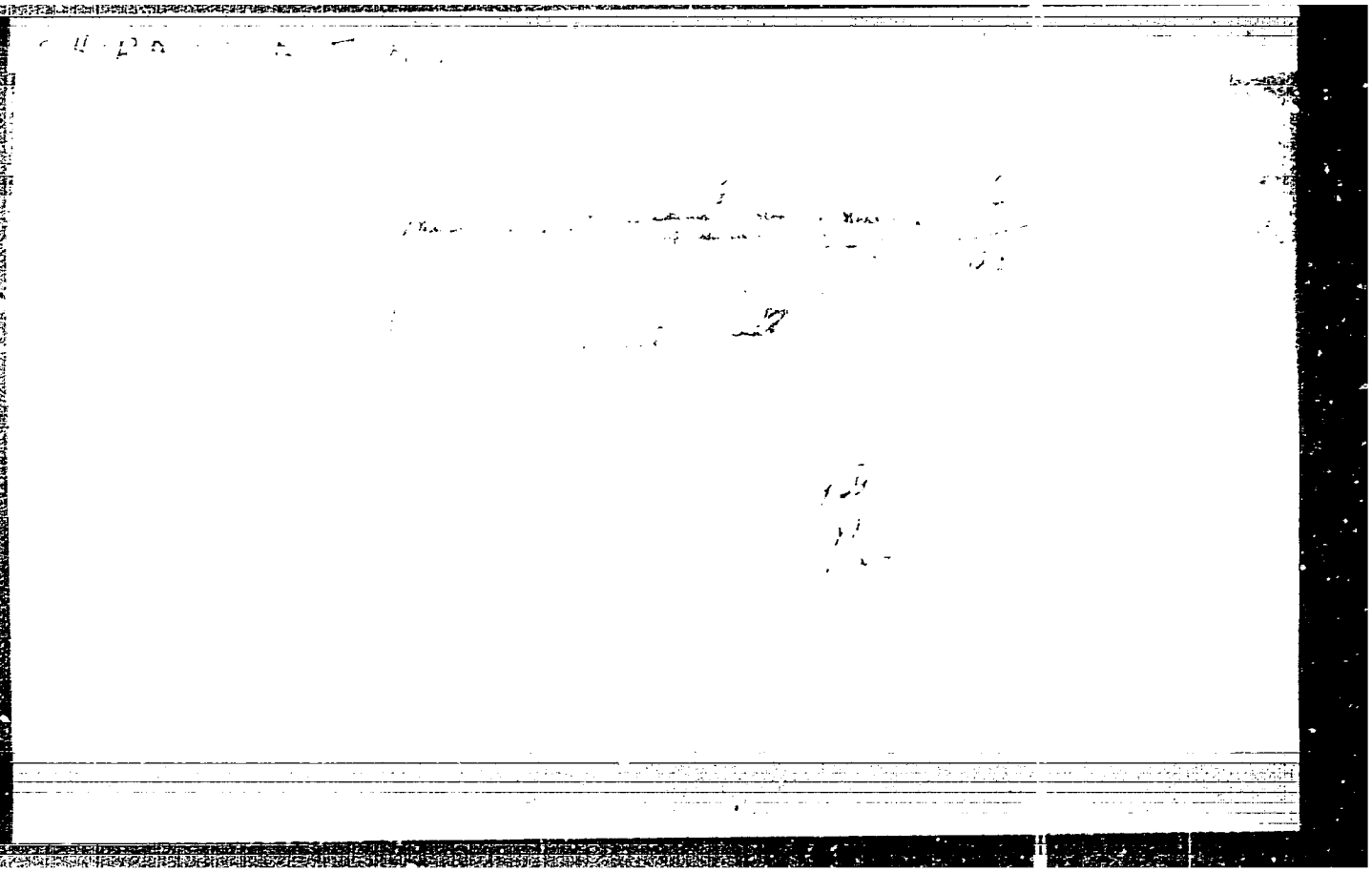
SHIRAY, Yevgeniy Nikolayevich; TRUPAK, N.G., doktor tekhn. nauk, prof., retsenzent; BRODSKIY, I.A., otv. red.; PETRAKOVA, Ye.P., red. izd-va; LOMILINA, L.N., tekhn. red.; MINSKER, L.I., tekhn. red.

[Vibration method of shaft sinking in shifting sands] Vibrometod pri prokhodke stvolov shakht v plyvunakh. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1961. 99 p. (MIRA 14:11)
(Shaft sinking)

SHMIT, A.I.; SHIBAY, Ye.P.

Adularization of rocks enclosing gold-pyrite ores in the Kurosan deposit (Southern Urals) and the depth of the formation of pyrite deposits. Dokl. AN SSSR 160 no.1:204-207 Ja '65. (MIRA 18:2)

1. TSentral'nyy nauchno-issledovatel'skiy gorno-razvedochnyy institut tsvetnykh, redkikh i blagorodnykh metallov. Submitted July 7, 1964.



L 24518-66 EWT(m)/EWP(t)/EWP(k) IJP(c) JD/RW

ACC NR: AP6009514 SOURCE CODE: UR/0413/66/000/005/0031/0031

AUTHOR: Kidin, I. N.; Shirbanyan, A. S.; Gokhberg, Ya. A.; Marshalkin, A. N.; Burkhanov, S. F.; Marschenko, V. Z.; Mizonov, Yu.P.

ORG: none

TITLE: Fabrication of steel wire. Class 18, No. 179348

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 5, 1966, 31

TOPIC TAGS: steel wire, wire production, austenitizing, deformation, patenting, cold drawing

ABSTRACT: An Author Certificate has been issued describing a method for producing steel wire, including electro-contact heating to austenitizing temperature, reduction, patenting, and cold drawing. In order to improve the mechanical properties of the wire and reduce the heat treating cycle, the wire deformation is carried out simultaneously with cooling down to 400-450C followed by patenting in air. [LD]

SUB CODE: 13/ SUBM DATE: 14Dec64/

Card 1/1 BLG UDC: 621.785.79:621.785.47:621.778.1

1. [redacted] LUKIANOV, M.D.:ENG

2. USSR (600)

4. Electric Networks

7. Technical and economic comparison of two schemes of urban electric power networks. Elektrichestvo, no. 12, 1952.

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

S/058/63/000/001/025/120
A062/A101

4,6130

AUTHOR: Shirchenko, V. S.

TITLE: Apparatus for absolute and relative measurements of the magnetic field (energy) in a. c. operated accelerators

PERIODICAL: Referativnyy zhurnal, Fizika, no. 1, 1963, 43, abstract 1A411 (In collection: "Elektron. uskoriteli". Tomsk, Tomskiy un-t, 1961, 220 - 221)

TEXT: The author describes an electron tube arrangement employed on the C -25 (S-25) synchrotron of the Physical Institute imeni P. N. Lebedev of the AS USSR (RZhFiz, 1958, no. 6, 12425) for measurements of the magnetic field (and energy) by the method of the "universal ferrometer" (RZhFiz, 1957, no. 7, 17437). This arrangement constitutes a controlled key with a resistance ratio (in the unlocked and locked states) > 10^6. The basic element thereof is a switched d. c. amplifier with a 100% negative feedback. For input signals up to ±50 volts the key resistance is 3 ohms in the locked state, and 50 megohms in the unlocked state.

V. Kanunnikov

[Abstracter's note: Complete translation]

Card 1/1

S/058/63/000/001/028/120
A062/A101

AUTHOR: Shirchenko, V. S.

TITLE: Circuit for increasing the time of the beam impact on the target

PERIODICAL: Referativnyy zhurnal, Fizika, no. 1, 1963, 44, abstract 1A420 (In collection: "Elektron. uskoriteli". Tomsk, Tomskiy un-t, 1961, 222 - 225)

TEXT: To carry out experiments with application of electron recording apparatus on a synchrotron it is necessary to increase the pulse length of the γ-bremsstrahlung. An arrangement is described which has been used for this purpose in the installation C-25 (S-25) of the Physics Institute imeni P. N. Lebedev of the AS USSR (RZhFiz, 1958, no. 6, 12425). This arrangement consists of electron tubes; it forms a pulse which controls the shape of the amplitude envelope of the accelerating voltage. The shape of the pulse can be adjusted within a wide range and chosen in such a way as to insure a gradual outlet of electrons from the acceleration process. A block diagram and a circuit diagram

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Circuit for increasing the time of...

of the device are given; the sequence of its operations is described.

V. Kanunnikov

[Abstracter's note: Complete translation]

S/058/63/000/001/026/120
A062/A101

AUTHOR: Shirchenko, V. S.

TITLE: Energy stabilization in biased accelerators

PERIODICAL: Referativnyy zhurnal, Fizika, no. 1, 1963, 44, abstract 1A415 (In collection: "Elektron. uskoriteli". Tomsk, Tomskiy un-t, 1961, 254 - 256)

TEXT: In constant bias accelerators, fed by currents of commercial frequency, the application, for energy stabilization, of the method of integration of the electromotive forces of the induction coil, placed in the magnetic field of the accelerator, is complicated due to the absence of the constant component in the signal from the transmitter. To avoid this, it is proposed to utilize a. c. integrating circuits with restoration of the constant component by a level fixer. A block diagram of such a circuit is given. A check of the circuit has shown that the instability of the moment of the beginning of the output pulse is ± 3.5 μsec when the tube filaments are heated with direct current and ± 7 μsec with alternating current; for these values the errors in the energy are 0.1 and

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L 46158-65 EWT(m)/EPA(w)-2/EWA(m)-2 Pt-7/Pab-10 IJP(c) OS

ACCESSION NR: AT5007923 S/0000/64/000/000/0355/0357

AUTHOR: Ado, Yu. M.; Belovintsev, K. A.; Belyak, A. Ya.; Bessonov, Ye. G.; Dem'yanovskiy, O. B.; Skorik, V. A.; Cherenkov, P. A.; Shirchenko, V. S.

TITLE: Storage of particles in a synchrotron

SOURCE: International Conference on High Energy Accelerators. Dubna, 1963. Trudy. Moscow, Atomizdat, 1964, 355-357

TOPIC TAGS: high energy accelerator, charged particle beam, particle physics, synchrotron

ABSTRACT: Synchrotron-type accelerators of several 100 Mev and higher can be employed for particle storage [Yu. M. Ado, "Atomnaya Energiya, 12, 54 (1962)]. In the case of simultaneous storage of electrons and positrons in an accelerator, one can obtain colliding electron-positron beams. In order for a synchrotron to operate in the storage state, the constant component of the driving magnetic field must be larger than the amplitude of the variable component. In particular, if the variable component is a sinusoidal function of time, the driving magnetic field H must have a specified shape. In this case, the accelerating hf potential is step-shaped,

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ACCESSION NR: AT5007923

i.e. remains switched on continuously in contrast to the synchrotron's operation in the usual state. The injection of particles is effected at moments of time t_1, t_2, t_3,..., which correspond to intersections of the ascending curve H-versus-t with the constant ordinate H_1. The particles captured in the synchrotron state of the storage device, which are accelerated during the rising portion of the magnetic field H and slowed down when the magnetic field is decreasing, remain in the accelerator chamber for a period that is determined mainly by the scattering processes and by the bremsstrahlung on the atoms of the residual gas. During each period of the driving magnetic field H close to maximum H there exists considerable radiation damping of the amplitudes of betatron and synchrotron oscillations. As a result, the phase volume occupied by the particles decreases. This permits the onset of amplitude modulation of the specified hf-potential without loss of the particles captured earlier. In this case, the injection of particles will proceed into the phase space between the separatrices which are defined by the amplitudes of hf-potential U (maximum step value) and $U - \Delta U$ (modulation decrement due to H being less than H_1 for the brief periods just before t_1, t_2, t_3,...). The admissible depth of modulation ΔH is larger the larger the magnitude of radiation damping of the oscillations. The effectiveness of the injection into the synchrotron state of storage during onset of amplitude modulation of the hf-potential is ten times the effectiveness of injection directly into the steady-state separatrix. In the case

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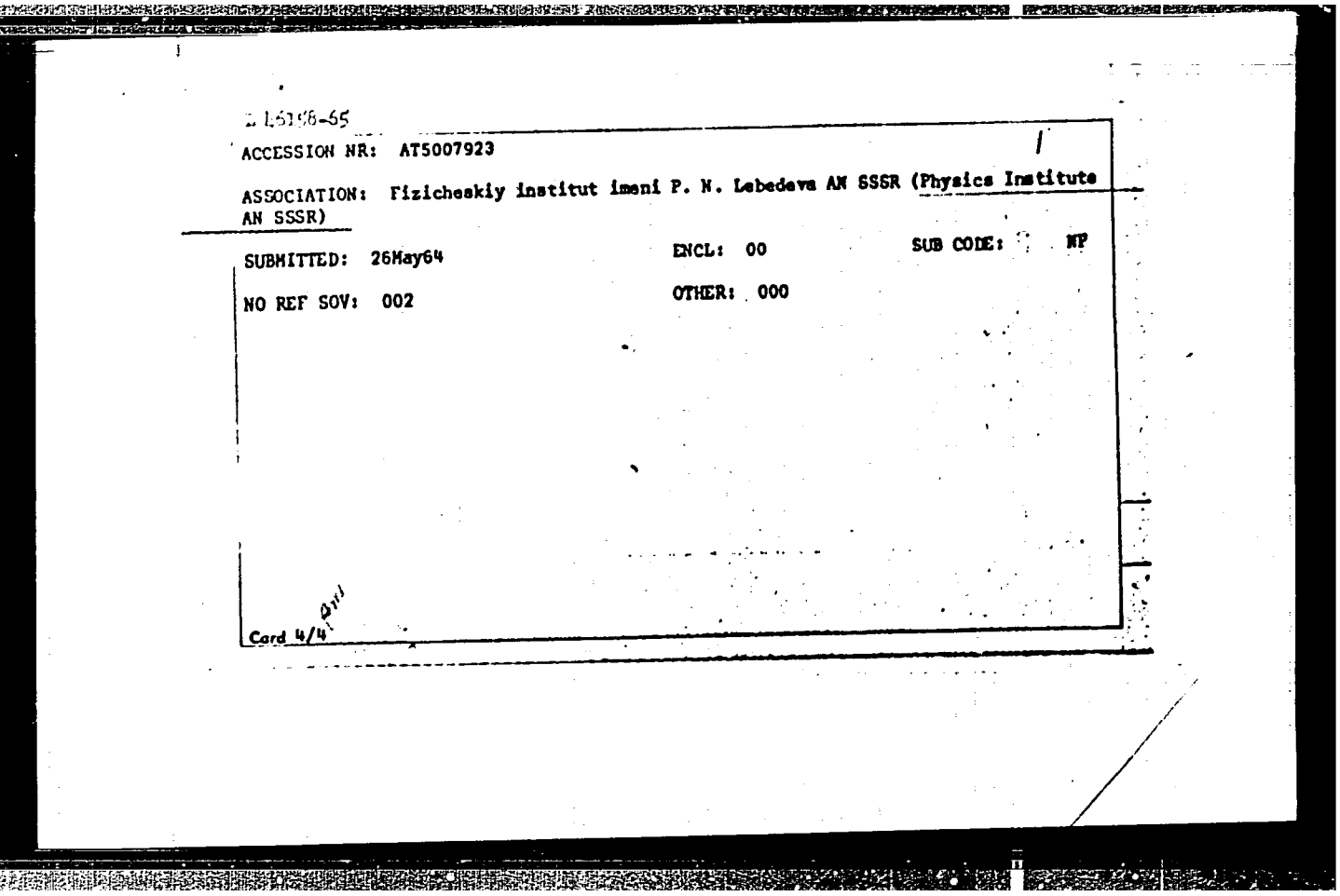
ACCESSION NR: AT5007923

of particle storage in a synchrotron, injection is effected into the variable magnetic field during the low energy of the injected particles which is typical for the given accelerator. Consequently the problem of particle injection is essentially simplified in comparison with injection into storage rings. Moreover, the small injection energy simplifies the problem of obtaining positrons. These properties permit attainment of a comparatively high rate of storage and thus a lowering of the requirements made on the degree of vacuum. To verify the possibility in principle of realizing the method of particle storage in a synchrotron, experiments were carried out on a 280-Mev synchrotron under specific conditions of particle energy (170 Mev for maximum H and 7 Mev for minimum H), amplitude U, of hf-potential (1.8 kv), modulation depth ΔU (0.36 kv), rate of growth of driving magnetic field at moment of injection ($1.5 \cdot 10^5$ oersteds/sec), pressure of residual gas in vacuum chamber ($5 \cdot 10^{-6}$ mm/Hg). The source of electrons is an 8-Mev microtron [K. A. Belovintsev, A. Ya. Belyak, A. M. Gromov, Ye. M. Moroz, P. A. Cherenkov, "Atomnaya Energiya, 14, 359 (1963)]. Finally as shown by tests conducted on electron storage in a synchrotron, it is possible to carry out simultaneous storage of both electrons and positrons in quantities sufficient for setting up experiments on colliding beams if the pressure in the vacuum chamber is lowered to 10^{-8} mm/Hg and the conditions for particle capture are suitably improved. Orig. art. has 4 figures.

Card 3/4



L 61[illegible]-65

ACCESSION NR: AT5007923

ASSOCIATION: Fizicheskiy institut imeni P. N. Lebedeva AN SSSR (Physics Institute AN SSSR)

SUBMITTED: 26May64 ENCL: 00 SUB CODE: NP

NO REF SOV: 002 OTHER: 000

Card 4/4

SHIRDIN, M.

The entire collective is on the watch. Sov. profsoiuzy 17 no.6:10-11 Mr '61. (MIRA 14:3)

1. Predsedatel' zavkoma profsoyuza Gor'kovskogo mashinostroitel'nogo zavoda imeni Vorob'yeva.
(Goriky--Grain-handling machinery)
(Socialist competition)
(Trade union)

BERDYYEV, A.A.; SHIRDZHANOV, N.; VASIL'YEVA, M.G.

Results of investigating the absorption of ultrasonic waves in certain liquids and mixtures. Trudy Inst.fiz.i geofiz.AN Turk. SSR 5:137-145 '58. (MIRA 13:6)
(Ultrasonic testing)
(Xylene)
(Benzene)

GOTLIIB, F.; NEGUS, N.; SHIREANU, B.; GEORGISKU, M.; IONESKU, I.; PEZAMOSKA, A.; KRUKHTER, Z.

Surgical therapy of osseous and osteo-articular tuberculosis in the Children's Surgical and Orthopedic Clinic in Bucharest. Khirurgiia 15 no.2/3:236 '62.

(TUBERCULOSIS OSTEOARTICULAR surg)

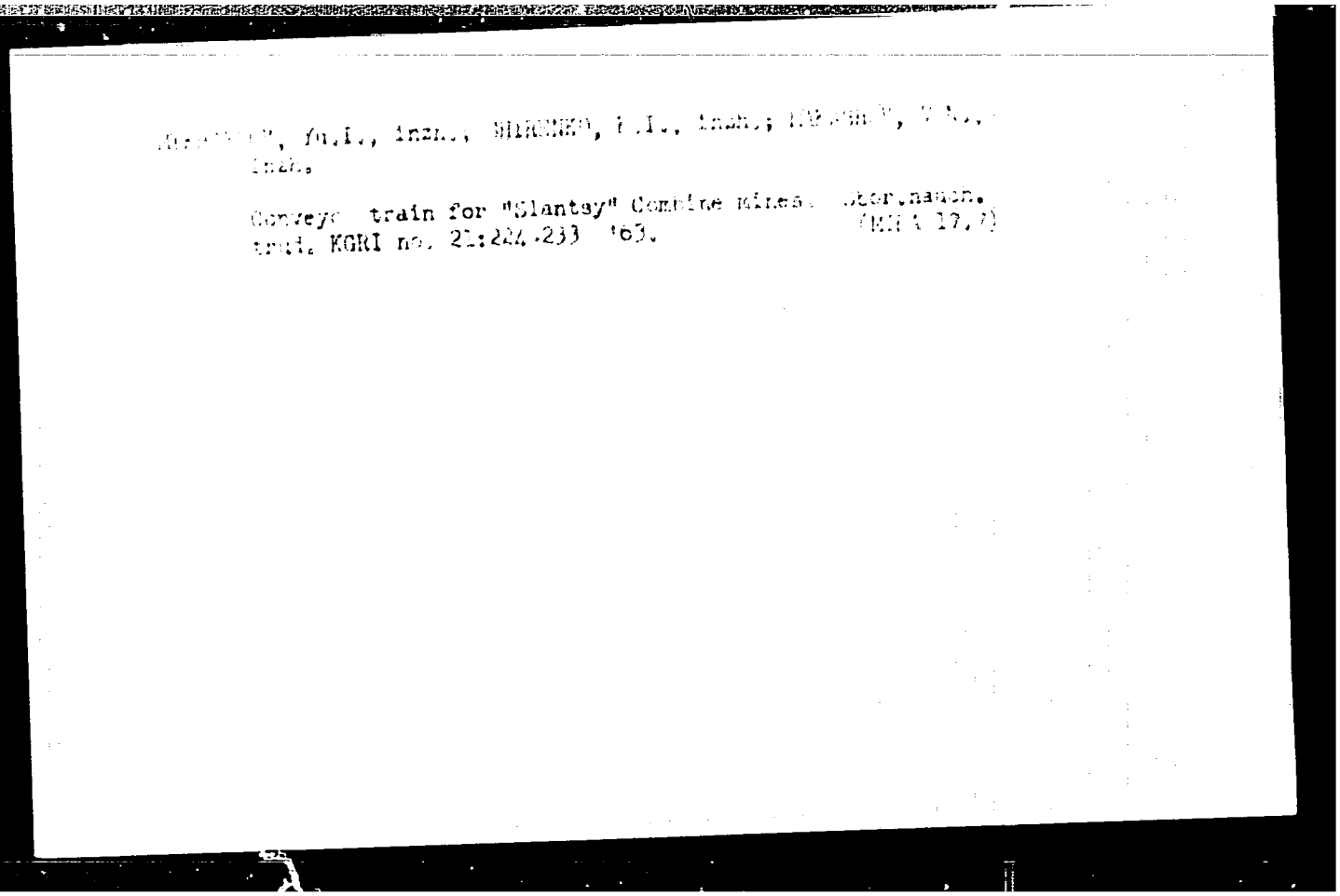
SHIRENKO, K.I.; MODESTOV, Yu.A.; LOGUSOV, B.I.

Testing the chamber and pillar mining method in mine No.3. Ugol'. 34 no.12:10-14 D '59. (MIRA 13:4)

1. Shakhta No.3 (for Shirenko). 2. Leningradskiy gornyy institut (for Modestov). 3. Trest Leningradslanets (for Logusov).
(Leningrad Province--Shale)
(Mining engineering)

BAKINOV, German Pavlovich; SHIRENKO, Konstantin Ivanovich; RADULOV, Ye.F., nauchnyy red.; ZAYTSEVA, L.I., vedushchiy red.; SAFRONOVA, I.M., tekhn.red.

[Technical methods and equipment and the economics of mining oil shales in Leningrad Province] Tekhnologiia i ekonomika dobychi goriuchikh slantsev Leningradskoi oblasti. Leningrad, Gostoptekhizdat, 1961. 143 p. (MIRA 15:5)
(Leningrad Province—Oil shales)



[illegible], Yu.I., inzh., [illegible], I.I., inzh.; [illegible], V.A., inzh.

Conveyor train for "Glantsy" Combine Mines. Gor. nauch. tekh. sbor. KGRI no. 22:224-233 '63. (MIR 17:7)

SHIRENKO, N.S., doktor tekhn. nauk, prof.; GREBENIK, V.M., kand. tekhn. nauk, dots.

Some problems connected with the theory of slinging machines; filling and shot blasting. Izv. vys. ucheb. zav.; chern. met. no.2:172-181 F '58. (MIRA 11:5)

1. Dnepropetrovskiy metallurgicheskiy institut i Sibirskiy metallurgicheskiy institut.
(Shot peening—Equipment and supplies) (Disks, Rotating)

SAMARIN, A.M.; SHIRER, G.B., kandidat tekhnicheskikh nauk.

Effect of vanadium, titanium, and zirconium as deoxidizing agents on nonmetallic inclusions in ball-bearing steels. Sbor.Inst.stali no.32:141-160 '54. (MLRA 10:5)

1.Chlen-korespondent AN SSSR (for Samarin) 2.Kafedra elektrometallurgii.
(Bearing metals)
(Reducing agents)

NAKHABIN, V.P., inzh.; MIKULINSKIY, A.S., doktor tekhn.nauk, prof.; SHIRER, G.B., kand.tekhn.nauk; NEVSKIY, R.A., inzh.; SHOLOKHOV, V.F., inzh.; YEFREMKIN, V.V., kand.tekhn.nauk; ZHUCHKOV, V.I., inzh.; KURNUSHKO, O.V., inzh.

Preparation of silicomanganese and ferromanganese from carbonate ores of the "Polunochnoye" deposit. Stal' 20 no. 12:1099-1103 D '60. (MIRA 13:12)

1. Zavod ferrosplavov, TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii i Institut metallurgii Ural'skogo filiala AN.
(Silicon-manganese alloys) (Ferromanganese)
(Polunochnoye region--Ore deposits)

NAKHABIN, V.P.; MIKULINSKIY, A.S.; SHIRER, G.B.; NEVSKIY, R.A.; SHOLOKHOV, V.F.; YEFREMKIN, V.V.; ZHUCHKOV, V.I.; KURNUSHKO, O.V.; EPSHTEYN, N.Ye.; PANFILOV, S.A.; Prinimali uchastiye: IL'IN, V.M.; ZEMLYAKOV, V.V.; SHMULEVICH, Ye.Ya.

Smelting out manganese-silicon and ferromanganese from Polunochnoye deposit ores in a furnace with a power of 10,500 kilovolt-amperes. Trudy Inst. met. UFAN SSSR no.7:127-145 '61. (MIRA 16:6)
(Manganese alloys) (Sintering)

KONTOROVICH, G. I., kand. tekhn. nauk; KRASNYKH, I. F., inzh.;
SHIRER, G. B., kand. tekhn. nauk

Efficient use of Nikopol' manganese ores in the production of manganese alloys. Gor. zhur. no.10:56-62 O '62. (MIRA 15:10)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii im. I. P. Bardina, Moskva.

(Nikopol' region--Manganese ores)
(Ore dressing)

MIKULINSKIY, A.S.; NAKHABIN, V.P.; SHIRER, G.B.; NEVSKIY, R.A.; STEBLYANKO, N.V.; YEFREMKIN, V.V.; VOROB'YEV, V.P.; ZHUCHKOV, V.I.; KURNUSHKO, O.V.

Change in the position of the electrodes and the capacity coefficient in obtaining manganese alloys. Trudy Inst. met. UFAN SSSR no.7: 147-151 '61. (MIRA 16:6)

(Manganese alloys) (Sintering)

LUBENETS, I.A.; ZHUKOV, D.G.; VOINOV, S.G.; SHALIMOV, A.G.; KOSOY, L.F.; KALINNIKOV, Ye.S.; CHERNYAKOV, V.A.; YAPTSEV, M.A.; GOLIKOV, Ye.S.; MYSINA, G.Ye.; Prinimali uchastiye: KEYS, N.V.; PEGOV, V.G.; MEN'SHENIN, Ye.B.; BARNOVALOV, M.A.; SHIMER, G.B.; SHATALOV, M.I.; MOLCHANOVA, A.A.; ANISIMOVA, M.Ye.

Refining steel with synthetic slag from large-capacity arc furnaces. Stal' 25 no.3:232-235 Mr '65. (MIRA 18:4)

BELIKOV, Yu.V.; KEKELIDZE, M.A.; KRASNYKH, I.F.; SICHIDZE, G.Ya.; KHITRIK, S.I.; SHATIRISHVILI, G.A.; SHIRER, G.B.

Making silicon-manganese alloys from sintered 2d and 3d-grade concentrates of the Nikopol' deposit. Stal' 24 no.2:140-143 F '64. (MIRA 17:9)

ACC NR: AM5027749 Monograph UR/ 10

Armand, N. A.; Vvedenskiy, B. A.; Gusyatinskiy, I. A.; Igoshev, I.P.; Kazakov, L. YA.; Kalinin, A. I.; Nazarova, L. G.; Nemirovskiy, A. S.; Prosin, A.V.; Ryskin, E. YA.; Sokolov, A. V.; Tarasov, V.A.; Tashkov, P. S.; Tikhomirov, YU. A.; Troitskiy, V. N. Fedorova, L. V.; Chernyy, F. B.; Shabel'nikov, A. V.; Shirey, R. A.; Shiffrin, YA. S.; Shur, A. A.;;YAkovlev, O. I.; Kolosov, M. A.; Lavshin, I. P.; Lomakin, A. M.

Upper tropospheric propagation of ultrashort radio waves (Dal'noye troposfernoye rasprostraneniye ul'trakorotkikh radiovoln) Moscow, Izd-vo "Sovetskoye radio", 1965. 414 p. illus., biblio. 4000 copies printed.

TOPIC TAGS: radio wave propagation, tropospheric radio wave, radio communication, space communication, tropospheric scatter communication, signal processing, signal distortion, field theory

PURPOSE AND COVERAGE: This monograph is intended for specialists working in the field of radiowave propagation, designers of long-distance radio communication systems, and teachers and students of the advanced courses in schools of higher technical education. The monograph contains, for the most part, heretofore unpublished results of Soviet experimental and theoretical investigations in the field of long-distance tropospheric ultrashortwave propagation.

Card 1/10 UDC: 621.371.24

ACC NR: AM5027749

Problems of investigating the troposphere by means of refractometers, the mean level of signals, meteorological conditions and topography, fluctuation of arrival angles and distortions of antenna directivity patterns, losses in antenna gain, and quick and slow fadings of signal levels are discussed. The statistical characteristics of the signals at diversity reception in time, space, frequency and angle as well as the distortion of signals in the communication systems are also investigated. The long-distance propagation theory is analyzed, and the engineering method of calculating field intensity at long-distance tropospheric propagation is given. At present, there is no theory of Long-Distance Tropospheric Propagation which can be applied effectively enough in practice. Thus, in the investigation of that propagation, considerable attention has to be paid to experiments. The special characteristics of geographical conditions of the territory involved should be taken into consideration during the analysis of experimental data and in their practical application because the conditions of propagation in arctic and tropical climates differ from those existing over seas and continents. A considerable part of the monograph deals with the investigations of long-distance tropospheric propagation carried out over dry land routes, 800 km long, in the central part of the USSR under the general supervision of B. A. Vvedenskiy and A. G. Arenberg (up to 1957). V. I. Siforov investigated problems con-

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nected with distortions and fluctuations of signals. References follow each chapter.

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ACC NR: AM5027749

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24460
S/109/61/006/006/001/016
D204/D303

9,9300 (1344)

AUTHORS: Armand, N.A., Vvedenskiy, B.A., Kalinin, A.I., Kologov, M.A., Sokolov, A.V., Shabel'nikov, A.V., and Shirey, R.A.

TITLE: A survey of work on the tropospheric propagation of ultrashort radiowaves

PERIODICAL: Radiotekhnika i elektronika, v. 6, no. 6, 1961, 867 - 885

TEXT: The large body of experimental work done in this field has been aided by the perfecting of apparatus and auxiliary instruments and given impetus by the need for more knowledge to assist the development of telephony, television and radio communications. The authors examine the following: 1) Relations between field strength and distance; 2) Signal level and frequency: the theoretical picture is confused, state the authors, but most experimental work suggests that P_r/P_o (P_r - received power, P_o - value in

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A survey of work on the ...

free space) declines as the frequency rises. No uniform value of $P_r(\lambda)$ has been found as yet, probably because of the changeability of the tropospheric structure and meteorological conditions; 3) Signal and time: Signal fading may be rapid or slow. Most information concerns 300 - 500 km traces. Slow fading is caused by the appearance or disappearance of inversion layers, large irregularities and changes in the value of $d\epsilon/dh$. Usually the signal strength is greater in the evening and at night, clearer in summer than in winter and at shorter (100-150 km) rather than longer (400 - 500 km) distances. The amplitude is related to frequency; also, as it combines with slow fading, the average amount of fading increases reaching, according to some sources, a maximum at 100-130 km. Others maintain that it declines with increase in distance to an equal summer and winter value of 3 - 10 db at 900 km; 4) Loss of antennae amplification: The phenomenon occurs beyond the horizon and means that for an antenna with an amplification coefficient G, exceeding 35-40 db, amplification is less than in free space. To account for this there are two hypotheses: (1) Spreading of radio-

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A survey of work on the ...

waves in a statistically non-homogeneous medium leads to distortion of the wave front in the plane of the receiving antenna and thus the energy absorbed is less than in the absence of amplitude and phase fluctuation, (2) elementary waves with various random angles of approach may reach the receiving antenna. These hypotheses have been investigated but comparison of results is hampered by differences in experimental conditions. For a 300 km trace the amplification loss increases with increase in the average amplification of receiving and transmitting antennae and with an increase of D to 300 - 500 km and f = 2290 megacycles. At greater distances the loss falls; 5) Signal distortion: Work in this field either treats the troposphere as an ideal quadruple network or aims to determine the amplitude correlation of the signal components on different frequencies in the transmitted spectrum. If with antenna with low directivity the amplitude of delayed waves is diminished by diffraction weakening of the earth's surface and the "directivity" of the troposphere, then at antennae with narrow patterns the amplitude of these waves decreases because of the di-

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A survey of work on the ...

rectivity of the antenna. The maximum transmitted frequency band depends on the width of the directivity pattern of the antenna. The random nature of the tropospheric radiation means that signal distortion has a random pattern as experiments in the USSR have confirmed. Two separated antennae in space diminish distortion and guarantee a large carrying capacity of tropospheric radio links; b) Radio-meteorological research: Refractometric measurements have dealt with the structure of the troposphere and, in particular, the value of $\varepsilon(h)$, $(\Delta\varepsilon)^2$ and the area of turbulence

$$l\sqrt{(\Delta\varepsilon)^2}$$

usually varies within the range 0.3 - 3N units and irregular layers are usually 1 - 300 m thick. "Jump" intensity in these regions is usually 2 - 50 or 60 N units, large especially in the "invisible clouds". It was stated that at a height h = 3000 m and more $(\Delta\varepsilon)^2/l$ is too small to explain distant fields and its alteration with height does not give the necessary value of $P_r(D)$. The authors

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...th deal with incoherent scatter and globular irregularities: In ...the last few years much attention has been devoted to the concep... ...n of incoherent scatter. Two chief theories have been establi... ...d: One which gives for the frequency subordinate of P_r/P_o, a ...efficient of $\lambda^{-4/3}$, and the theory of "disturbance of the gradi... ...t", which gives λ. The second approaches more closely to the ex... ...perimental facts, and is generally preferred. Maxwell's equations ...r statistically non-homogeneous layers above a spherical earth ...ave not yet been resolved and a solution must combine the theory ...of diffraction spread with pereoptical theory. All theories, in ...essence, approach those of a "radar form type"

$$\frac{P_r}{P_o} = QD^2 \int_v \frac{g(\theta)}{R_1^2 R_2^2} dV, \qquad (1)$$

where Q is a constant factor; $g(\theta)$ - "scatter area" - a junction for the influence of fluctuation ϵ and its relation to λ and the

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Gradient dε/dh; with this formula theory discrepancy concerns basically the value of σ. σ, moreover, can be expressed simply as

$$\sigma(\theta) = \frac{1}{\sin^4 \theta}$$

where θ - radiation angle, equal to the angular distance between transmitter and receiver; b - expression giving ratios of 1, dε/dh and others to $(\Delta\varepsilon)^2$. For whole even numbers $m > 2$ this accords well with a general formula and is integrated with formula 2 to give

$$\frac{P_r}{P_o} = Q\, b\, A_m\, D^{-m+3}, \qquad (2)$$

where A_m depends on m. If $b \simeq h^{-n}$, then $D^{-m+3-2n}$ replaces D^{-m+3}; m can be substituted by nearest even whole number, in cases of close approximation. Current theories give results approximate to

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Eq. 2. Finally mentioned are: a) incoherent scatter and turbulency layers, and b) coherent reflecting layers. On a) it is pointed out that the use of tropospheric layers for wave reflection has been extensively studied and that in 1955 V.N. Troitskiy (Ref. 107: Radiotekhnika, 1956, 11, 5, 3) obtained a calculated formula which accorded with experimental observations. On b) it is noted that stable layer reflection has met with two objections: The first concerns the incompatability of the existence of great changeability patterns over long distances with the idea of stable tropospheric layers; the second, is, however, theoretical and hardly affects the practical aspect of the problem; the existence of layers has been firmly established and it is positive that a diffraction approach to the problem of spread along the earth's curvature will be of value. A simplification of reported formulae was attempted and

$$\frac{P_r}{P_0} = \frac{1}{D}\Phi\left(\lambda, \left[\frac{d\varepsilon}{dh}\right]_0, h_1, h_2\right) \exp\left[-\alpha D\right],$$

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was obtained, where Φ is a complicated function, analogous to the high factors of classical diffraction theory, containing frequency responses and "ramp" ratios $[d\varepsilon/dh]_0$, α - another function of type $A + B \ln \lambda$ related to parameters, whose size A and B does not depend on λ. Though not strictly accurately descriptive of the fluctuation character of the field the equation gives the necessary experimental ratio $P_r(D)$. There are 9 figures and 119 references: 24 Soviet-bloc and 97 non-Soviet-bloc. The four most recent references to the English-language publications read as follows: Radio transmission by ionospheric and tropospheric scatter, Proc. I.R.E., 1960, 48, 1, 30. E.D. Denman, Proc. I.R.E., 1960, 48, 1, 112; I.H. Vogelman, I.L. Ryerson, M.H. Bickelhaupt, Proc. I.R.E., 1959, 47, 5, 688; L.A. Ames, E.T. Martin, E.J. Rogers, Proc. I.R.E., 1959, 47, 5, 769.

SUBMITTED: July 27, 1960

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4-6-2/30

AUTHORS: Kozlyanikov, M, Candidate of Geographical Sciences, and Shirey, V.

TITLE: The Sea Currents are Measured by Electromagnets (Techeniya v more izmeryayut elektromagnitom)

PERIODICAL: Znaniye - Sila, 1957, # 6, pp 3-5 (USSR)

ABSTRACT: The authors state that most ship-wrecks are due to sea currents, which cause a loss in orientation. The speed and direction of these currents not only affect navigation but also climate and the fishing industry.

The author describes a device, recently designed in the Soviet Union, by which sea currents can be recorded continuously for periods of 30 astronomical days.

The instrument was designed on the basis of the Faraday law that electric current is induced in a conductor moving in a magnetic field.

Two electric cables of 150 and 250 meters are dropped from a ship. Their ends are fitted with uninsulated "electrodes". The differential length of 100 meters of both these cables forms the conductor, inducing the electric current for the measurements. The electrode surface must be

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carefully protected against the electro-chemical effects of sea water. This difficulty was recently eliminated by Soviet scientists. The ship's movement does not have any effect on the operating of this instrument as electric current is induced only by a transverse movement.

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BURKOV, V.A.; BOGDANOV, K.T.; GAMUTILOV, A.Ye.; SHIREY, V.A.

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